

CLAIMS

1. A method of forming a luster coating film,
comprising the steps of:

(1) applying an aqueous luster thermosetting base
5 coating composition (A) to a substrate in two to five stages, in
such a manner that the thickness of the base coating composition
(A) applied in each of the second and subsequent stages becomes
0.3 to 5 μm when cured;

(2) applying a thermosetting clear coating composition
10 (B) over the uncured or heat-cured coating layer of the base
coating composition (A);

(3) applying an aqueous luster thermosetting base
coating composition (C) to the uncured or heat-cured coating
layer of the clear coating composition (B) in two to five stages;

15 (4) applying a thermosetting clear coating composition
(D) over the uncured or heat-cured coating layer of the base
coating composition (C); and

(5) heating the four-layer coating comprising the base
coating composition (A), clear coating composition (B), base
20 coating composition (C) and clear coating composition (D) to
obtain a cured four-layer coating film.

2. The method according to claim 1, wherein the aqueous
luster thermosetting base coating composition (A) comprises a
water-soluble or water-dispersible, crosslinkable functional
25 group-containing resin, a crosslinking agent and a flaky luster
pigment.

3. The method according to claim 1, wherein, in step
(1), the thickness of the aqueous luster thermosetting base
coating composition (A) applied in the first stage is 0.3 to 9 μm
30 when cured.

4. The method according to claim 1, wherein, in step
(1), the solids content of the aqueous luster thermosetting base
coating composition (A) one minute after the application in each
stage is at least 40 wt.%.

35 5. The method according to claim 1, wherein the aqueous

luster thermosetting base coating composition (C) comprises a water-soluble or water-dispersible, crosslinkable functional group-containing resin, a crosslinking agent and a flaky luster pigment.

5 6. The method according to claim 1, wherein, in step (3), the thickness of the aqueous luster thermosetting base coating composition (C) applied in each stage is 0.3 to 5 μm when cured.

10 7. The method according to claim 1, wherein, in step (3), the solids content of the aqueous luster thermosetting base coating composition (C) one minute after the application in each stage is at least 40 wt.%.

8. The method according to claim 1, wherein the substrate is an automotive body or a part thereof.

15 9. An automotive body or a part thereof having a luster coating film formed by the method according to claim 8. 10. A method of forming a luster coating film, comprising the steps of:

20 (1) applying an aqueous luster thermosetting base coating composition (A) to a substrate in two to five stages, in such a manner that the thickness of the base coating composition (A) applied in each of the second and subsequent stages becomes 0.3 to 5 μm when cured;

25 (2) applying a thermosetting clear coating (B) over the uncured or heat-cured coating layer of the base coating composition (A);

 (3) applying an aqueous luster thermosetting base coating composition (C) over the uncured or heat-cured coating layer of the clear coating composition (B) in two to five stages;

30 (4) applying a thermosetting clear coating composition (D) over the uncured or heat-cured coating layer of the base coating composition (C);

 (5) applying a thermosetting clear coating composition (E) over the uncured or heat-cured coating layer of the clear coating composition (D); and

35 (6) heating the five-layer coating comprising the base

coating composition (A), clear coating composition (B), base coating composition (C), clear coating composition (D) and clear coating composition (E) to obtain a cured five-layer coating film.

11. The method according to claim 10, wherein the
5 aqueous luster thermosetting base coating composition (A) comprises a water-soluble or water-dispersible, crosslinkable functional group-containing resin, a crosslinking agent and a flaky luster pigment.

12. The method according to claim 10, wherein, in step
10 (1), the thickness of the aqueous luster thermosetting base coating composition (A) applied in the first stage is 0.3 to 9 μm when cured.

13. The method according to claim 10, wherein, in step
15 (1), the solids content of the aqueous luster thermosetting base coating composition (A) one minute after the application in each stage is at least 40 wt.%.

14. The method according to claim 10, wherein the
aqueous luster thermosetting base coating composition (C)
comprises a water-soluble or water-dispersible, crosslinkable
20 functional group-containing resin, a crosslinking agent and a flaky luster pigment.

15. The method according to claim 10, wherein, in step
(3), the thickness of the aqueous luster thermosetting base
coating composition (C) applied in each stage is 0.3 to 5 μm when
25 cured.

16. The method according to claim 10, wherein, in step
(3), the solids content of the aqueous luster thermosetting base
coating composition (C) one minute after the application in each
stage is at least 40 wt.%.

17. The method according to claim 10, wherein the
30 substrate is an automotive body or a part thereof.

18. An automotive body or a part thereof having a
luster coating film formed by the method according to claim 17.